

CLAIMS

What is claimed is:

1. A suspension assembly for a vehicle comprising:

a frame;

first and second control arms in spaced relation to one another, said control arms having first and second opposing portions with said first portions pivotally connected to said frame;

a knuckle supported by said second portion of said first control arm at a first connection and said second portion of said second control arm at a second connection, said connections defining camber, caster, toe, and track;

first and second actuators in connection with said first control arm and moving said first connection relative to said frame;

a third actuator in connection with said second control arm and moving said second connection relative to said frame;

a sensor detecting vehicle ride conditions; and

a controller connected to said sensor and said actuators commanding said actuators to adjust at least one of said caster, camber, toe, and track in response to said vehicle ride conditions.

2. The assembly according to claim 1, wherein said first control arm is an upper control arm and said second control arm is a lower control arm.

3. The assembly according to claim 1, wherein said first control arm is a lower control arm and said second control arm is an upper control arm.

4. The assembly according to claim 1, further including a steering linkage mechanically connected to said knuckle with a steering wheel mechanically connected to said steering linkage for rotating said knuckle about an axis defined by said connections by manipulating said steering linkage.

5. The assembly according to claim 4, wherein said sensor includes a steering linkage position sensor sensing the position of said steering linkage.

6. The assembly according to claim 1, wherein said sensor includes a braking sensor in an anti-lock braking system.

7. The assembly according to claim 1, wherein said sensor includes a vehicle yaw sensor.

8. The assembly according to claim 1, wherein said first and second actuators are generally coplanar.

9. The assembly according to claim 8, wherein said actuators are generally parallel with said control arms.

10. The assembly according to claim 1, wherein said connections are provided by ball joints with said actuators connected to said ball joints.

11. The assembly according to claim 1, wherein said actuators are supported on said control arms.

12. A method of adjusting a suspension assembly comprising the steps of:

- a) providing a mechanical input from a steering wheel to spaced apart wheels;
- b) turning the wheels in response to the mechanical input;
- c) detecting vehicle ride conditions;
- d) manipulating first, second, and third actuators at each of the wheels in

response to the vehicle ride conditions; and

- e) adjusting the attitude of the wheels with the actuators to a desired position.

13. The method according to claim 12, wherein step c) includes detecting vehicle yaw.

14. The method according to claim 12, wherein step c) includes detecting a steering wheel position.

15. The method according to claim 12, wherein step c) includes detecting a braking signal.

16. The method according to claim 12, wherein step e) includes adjusting caster.

17. The method according to claim 12, wherein step e) includes adjusting camber.

18. The method according to claim 12, wherein step e) includes adjusting toe.
19. The method according to claim 12, wherein step e) includes adjusting track.